

REMARKS

Claims 1-2, 4-6 and 8-12 are pending in the application and stand rejected. under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,675,072 to Bennett in view of U.S. Patent No. 6,323,046 to Agarwal. It is respectfully submitted that at the very minimum, the combination of Bennett and Agarwal is legally deficient to establish a prima facie case of obviousness under 35 U.S.C. 103 to support the rejection of claims 1 and 4.

To begin, combination of Bennett and Agarwal does not disclose or *suggest chemically analyzing a concentration of an implanted dopant released from a semiconductor film during an etch process to determine an endpoint for the etch process, wherein the endpoint of the etch process is determined based on a peak concentration of the implant dopant in an etch plasma*, as essentially claimed in claim 1.

Examiner contends on page 4 of the Final Office Action that “it would have been obvious . . . to substitute the mass spectrometry of Agarwal of the detection device of Bennet because both references are dealing with a similar problem . . . and the teaching of equivalence between the mass spectrometry method and the optical method...” Applicants respectfully disagree with such contention because the mass spectrometry and optical detection methods are completely different processes with different considerations, advantages and disadvantages. There are many disadvantages and problems associated with the optical methods such as the Bennett methods (see, e.g., page 6, lines 6-23 of Applicants’ specification), which are remedied by the claimed inventions. As such, based on the teachings in Applicants’ specification, one of ordinary skill in the art would not look to the teachings of Bennett to derive the claimed inventions.

Moreover, with respect to claim 4, for example, Examiner has not demonstrated how the combination Bennet and Agarwal discloses or suggests the claimed feature *wherein the step of*

detecting comprises detecting the concentration of compound formed from the dopant during the etching process, as essentially claimed in claim 4. In fact, Examiner acknowledges on Page 5 of the Final Office Action that Agarwal and Bennet are both dependent on detection of a peak concentration of a dopant. However, this is much different than *detecting the concentration of compound formed from the dopant during the etching process*, as claimed in claim 4, and no explanation is provided in the Final Office Action in this regard. In any event, Examiner's characterization of Bennet in this regard is incorrect because Bennet does not disclose detection of a dopant as contented in the Office Action.

Accordingly, for at least the reasons given above, independent claims 1 and 4 and all pending dependent claims are patentable and non-obvious over the combination of Bennet and Agarwal. Accordingly, the withdrawal of all the claim rejections is respectfully requested. The Examiner's early and favorable action is respectfully requested.

Respectfully submitted,



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